

GREATER HARTFORD FLOOD COMMISSION
525 MAIN STREET-HARTFORD, CONNECTICUT 06103
Telephone: (860) 543-8630

RULES AND REGULATIONS
GOVERNING THE USE OF THE FLOOD PLAIN DISTRICT
Effective Date: September 26, 2008

I. GENERAL

- A. For the purposes of properly managing the flood plain district and flood control infrastructure in Hartford, and to comply with Article I, Section 28-Drainage channels and floodplains, and Article III, Division 21-FP Flood Plain District of the City of Hartford Zoning Regulations, or the most current zoning ordinances adopted by the City Of Hartford, all development activities the Flood Plain District shall require approval by the Greater Hartford Flood Commission (GHFC). Prior to the activity commencing the applicant shall apply for and obtain a written Certificate of Approval for any use of the Flood Plain District. If approved, said certificate shall in no way guarantee flooding cannot occur beyond the floodway or flood plain limits. In situations where the activity that is proposed in the flood plain district or in an area affecting flood control infrastructure is determined by the Director of the GHFC to be insignificant with respect to overall flood control management, the Certificate of Approval requirements may be waived by the Director by means of a written document to this effect. This waiver provision shall not apply to significant Flood Plain District activities including construction of new dwellings or commercial buildings, and any activity that, in the judgment of the Director, warrants an application to the Greater Hartford Flood Commission. The Director shall advise the GHFC of all such waivers granted at the next meeting of the commission
- B. In the event that the Owner/Applicant fails to comply in any respect with any of the provisions of the Zoning Code or Ordinance pertaining to the Flood Plain District, or with any of the rules, regulations or conditions prescribed by this Commission, or with the applicant's own plans as submitted, the Greater Hartford Flood Commission reserves the right to revoke or otherwise suspend any approval or privilege granted to the owner unless and until full compliance is rendered.
- C. The Flood Plain District is delineated on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) on file in the Office of the Town Clerk of Hartford and with the Greater Hartford Flood Commission, and is subject to the jurisdiction of the GHFC's Rules and Regulations as described herein. The Flood Plain District on the North and South Branches of the Park River is defined by the greater of the "Required Flood Storage Area below Elevation 51.92 NGVD (51.15 NAVD) as noted in a Formal Agreement between the Army Corps of Engineers and the City Of Hartford", and all other FEMA flood zone classifications designated on the FIRM maps. (The flood zones on the Park River are primarily based on the hydraulic requirements contained in the Army Corps of Engineer's report entitled, "Report on Review of Survey for Flood Control, Park River Basin, Connecticut, in two volumes, July 1966" specifically for the South Branch of the Park River and its tributaries; and for the North Branch of the Park River south of Albany Avenue.) For the Connecticut River (outside of the levee), said Flood Plain District is based solely on the base flood elevations (BFE) as shown in the Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM), both dated September 26, 2008, prepared by the Federal Emergency Management Agency (FEMA), and called the Special Flood Hazard Area (SFHA). This FIS and FIRM, and other supporting data, and any subsequent revisions thereto, are hereby adopted by reference and declared to be part of this

regulation. Since mapping is legally adopted by reference into this regulation it must take precedence when more restrictive until such time as a map amendment or map revision is obtained from FEMA. The SFHA includes any area shown on the FIRM as Zones A and AE, including areas designated as a floodway on a FIRM. SFHAs are determined utilizing the BFEs provided on the flood profiles in the FIS for a community. BFEs provided on the FIRM are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location. Also included are areas of potential, demonstrable or historical flooding, including any area contiguous with but outside the SFHA identified by FEMA, and where the land surface elevation is lower than the BFE as shown in the FIS, and the area is not protected from flooding by a natural or man-made feature.

- D. The area designated as Shaded Zone X "Other Flood Zones" immediately behind the Connecticut River Levee with the notation "Provisionally Accredited Levee" (or future designations indicating it is protected by an accredited levee) is not considered part of the Flood Plain District and, as such, is generally not subject to the application or other requirements of the Rules and Regulations Governing the use of the of the Flood Plain District as described herein. The GHFC shall, however, have jurisdiction for oversight and overall flood plain management of this area, and shall have authority to regulate such activities within this area that could pose a particular public safety risk, impact public flood control functioning or infrastructure necessary for evacuation, or are of a critical nature with respect to flood plain management.
- E. The Director of the Greater Hartford Flood Commission shall notify the Town Clerks of Windsor, Bloomfield, West Hartford, Newington and Wethersfield of each application to alter or relocate a watercourse submitted to the Greater Hartford Flood Commission for its review. Such notice shall contain a brief description of the proposed development and the date, time and place at which the application will be considered by the Commission. The Director shall also notify the Department of Environment Protection, Inland Water Resources Division prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency. The Director shall also assure that by the flood carrying capacity within the altered or relocated watercourse is maintained.
- F. The Commission shall require base flood elevation (BFE) data to be provided with any application for new construction, substantial improvement, repair to structures which have sustained substantial damage, subdivision proposals or other development in Zone A without a FEMA-published BFE. When base flood elevation data or floodway data have not been provided, then the Greater Hartford Flood Commission shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source in order to administer the provisions of this regulation. The Commission may request floodway data of an applicant for watercourses without FEMA-published floodways. When such data is provided by an applicant or whenever such data is available from any other source (in response to the municipality's request or not), the community shall adopt a regulatory floodway based on the principle that the floodway must be able to convey the waters of the base flood without increasing the water surface elevation more than one (1.0) foot at any point within the community. When BFEs have been determined within the SFHA on the community's FIRM but a regulatory floodway has not been designated, the Commission shall require that no new construction, substantial improvements, repair to structures which have sustained substantial damage or other development, including fill, shall be permitted which will increase the water surface elevation of the base flood more than one (1.0) foot at any point within the community when all existing and anticipated development is considered cumulatively with the proposed development.

- G. The Director shall be provided by the applicant and shall record the elevation (in the same datum as the current FIS and FIRM documents) of the lowest floor or the flood proofed level of all new or substantially improved structures.

II. DEFINITIONS

Unless specifically defined below, words or phrases used in these regulations shall be interpreted so as to give them the meaning they have in common usage and to give these Rule and Regulations its most reasonable application. These definitions only apply to these Rules and Regulations governing the Use of the Flood Plain District. Definition of terms listed below, if not specifically used within these regulations, shall serve as preferred terminology to be used in application materials and related discussions to better facilitate the understanding of the application.

Main Definitions:

- A. "Base Flood" means the flood having a one (1) percent chance of being equaled or exceeded in any given year, also referred to as the one hundred (100) year flood, as published by the Federal Emergency Management Agency (FEMA) as part of a Flood Insurance Study (FIS) and depicted on a Flood Insurance Rate Map (FIRM).
- B. "Base Flood Elevation (BFE)" means the elevation of the crest of the base flood or 100-year flood. The height in relation to mean sea level expected to be reached by the waters of the base flood at pertinent points in the floodplains of coastal and riverine areas.
- C. "Basement" means any area of the building having its floor subgrade (below ground level) on all sides.
- D. "Building" means refer to the definition for "Structure".
- E. "Director" shall mean the City Engineer of the City of Hartford subject to formal appointment by the GHFC as the "Flood Control Director", also known as the "Director of the Greater Hartford Flood Commission.
- F. "Elevated Building" means a non-basement building built to have the lowest floor elevated above the ground level by means of fill, solid foundation perimeter walls, pilings, columns (post and piers), shear walls, or break-away walls.
- G. "Flood Plain District " means: for the North and South Branches of the Park River it is defined as the "Required Flood Storage Area below Elevation 51.92 NGVD (51.15 NAVD) as noted in a Formal Agreement between the Army Corps of Engineers and the City Of Hartford", or the most conservative FEMA flood zone classifications designated on the FIRM maps, whichever is greater. For areas outside of the Park River flood zone, it is defined as all Special Flood Hazard Areas on the FIRM maps.
- H. "Flood Insurance Rate Map (FIRM)" means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.
- I. "Flood Insurance Study (FIS)" means the official study of a community in which the Federal Emergency Management Agency (FEMA) has conducted a technical engineering evaluation and determination of local flood hazards, flood profiles and water surface elevations. The Flood Insurance Rate Maps (FIRM), which

accompany the FIS, provide both flood insurance rate zones and base flood elevations, and may provide the regulatory floodway limits.

- J. "Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.
- K. "Lowest Floor" means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor, provided that such an enclosure is not built so to render the structure in violation of other requirements of this regulation.
- L. "Special Flood Hazard Area (SFHA)" means the land in the floodplain within a community subject to a one (1) percent or greater chance of flooding in any given year. SFHAs are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the Flood Insurance Study (FIS) for a community. BFEs provided on the Flood Insurance Rate Map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location. SFHAs include, but are not necessarily limited to, the land shown as Zones A, AE, AO, and AH. The SFHA is also called the Area of Special Flood Hazard.
- M. "Mean Sea Level (MSL)" means for purposes of the National Flood Insurance Program, the North American Vertical Datum (NAVD) of 1988 or other datum, to which base flood elevations shown on a community's Flood Insurance Rate Map (FIRM) are referenced.

Other Definitions

- N. "Cost" means, as related to substantial improvements, the cost of any reconstruction, rehabilitation, addition, alteration, repair or other improvement of a structure shall be established by a detailed written contractor's estimate. The estimate shall include, but not be limited to: the cost of materials (interior finishing components, structural components, utility and service equipment); sales tax on materials; building equipment and fixtures, including heating and air conditioning and utility meters; labor; built-in appliances; demolition and site preparation; repairs made to damaged parts of the building worked on at the same time; contractor's overhead; contractor's profit; and grand total. Items to be excluded include: cost of plans and specifications; survey costs; permit fees; outside improvements such as septic systems, water supply wells, landscaping, sidewalks, fences, yard lights, irrigation systems, and detached structures such as garages, sheds, and gazebos.
- O. "Development" means any man-made change to improved or unimproved real estate, including but not limited to the construction of buildings or other structures; the construction of additions, alterations or substantial improvements to buildings or structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials; the storage, deposition, or extraction of materials; and the installation, repair or removal of public or private sewage disposal systems or water supply facilities.
- P. "Existing Manufactured Home Park or Subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured home are to be affixed

(including, as a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

- Q. "Expansion to an Existing Manufactured Home Park or Subdivision" means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufacturing homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).
- R. affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).
- S. "Federal Emergency Management Agency (FEMA)" means the federal agency that administers the National Flood Insurance Program (NFIP).
- T. "Finished Living Space" means a living space that can include, but is not limited to, a space that is heated and/or cooled, contains finished floors (tile, linoleum, hardwood, etc.), had sheetrock walls that may or may not be painted or wallpapered, and other amenities such as furniture, appliances, bathroom, fireplaces and other items that are easily damaged by floodwaters and expensive to clean, repair or replace.
- U. "Flood or Flooding" means a general and temporary condition of partial or complete inundation of normally dry land areas from either the overflow of inland or tidal waters, or the unusual and rapid accumulation or runoff of surface waters from any source.
- V. "Functionally Dependent Use or Facility" means a use or facility that cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities. The term does not include seafood processing facilities, long-term storage, manufacturing, sales or service facilities.
- W. "Highest Adjacent Grade (HAG)" means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.
- X. "Historic Structure" means any structure that is: (a) Listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register; (b) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historic significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district; (c) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or (d) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either: (1) By an approved state program as determined by the Secretary of the Interior or (2) Directly by the Secretary of the Interior in states without approved programs.
- Y. "Manufactured Home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term also includes park trailers, travel trailers, and similar transportable structures placed on a site for 180 consecutive days or longer and intended to be improved property.

- Z. "Manufactured Home Park or Subdivision": a parcel, or contiguous parcels, of land divided into two or more manufactured home lots for rent or sale.
- AA. "Market Value" means the market value of the structure shall be determined by the appraised value of the structure prior to the start of the initial repair or improvements.
- BB. "New Construction" means for structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.
- CC. "New Manufactured Home Park or Subdivision" means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the floodplain management regulation adopted by the community.
- DD. "Recreational Vehicle" means a vehicle which is: (a) built on a single chassis; (b) 400 square feet or less when measured at the largest horizontal projection; (c) designed to be self-propelled or permanently towable by a light duty truck; and (d) designed primarily not for use as a permanent dwelling but as a temporary living quarters for recreational, camping, travel, or seasonal use.
- EE. "Start of Construction" includes substantial improvement, and means the date of building permit was issued, provided the actual start of construction, repair, reconstruction, or improvement was within 180 days of the permit date. The actual start means the first placement of permanent construction of a structure (including a manufactured home) on a site, such as the pouring of slabs or footings, installation of piles, construction of columns, or any work beyond the stage of excavation or placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or shed not occupied as dwelling units or not part of the main structure.
- FF. "Structure" means a walled and roofed building which is principally above ground, including a manufactured home, a gas or liquid storage tank, or other man-made facilities or infrastructures.
- GG. "Substantial Damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.
- HH. "Substantial Improvement" means any combination of repairs, reconstruction, alteration, or improvements to a structure, taking place during the life of a structure in which the cumulative cost equals or exceeds fifty percent of the market value of the structure. The market value of the structure should be (1) the appraised value of the structure prior to the start of the initial repair or improvement, or (2) in the case of damage, the value of the structure prior to the damage occurring. For the purposes of this definition, "Substantial Improvement" is considered to occur when the first alteration of any wall, ceiling, floor, or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term does not, however, include any project for improvement of a structure required to

comply with existing health, sanitary, or safety code specifications which are solely necessary to assure safe living conditions.

II. "Variance" means a grant of relief by a community from the terms of the floodplain management regulation that allows construction in a manner otherwise prohibited and where specific enforcement would result in unnecessary hardship.

JJ. "Violation" means a failure of a structure or other development to be fully compliant with the community's floodplain management ordinance. A structure or other development without required permits, lowest floor elevation documentation, flood-proofing certificates or required floodway encroachment calculations is presumed to be in violation until such time as that documentation is provided.

KK. "Water Surface Elevation" means the height, in relation to the North American Vertical Datum (NAVD) of 1988 (or other datum, where specified), of floods of various magnitudes and frequencies in the floodplains of coastal or riverine areas.

III. **APPLICATION REQUIREMENTS**

A. Applications must be received at least 21 days prior to the next scheduled meeting in order for the item to be placed on the agenda. Applications received after this deadline may be placed on the agenda for the next scheduled meeting if staff has reviewed the application and completed a report on the application for Commission review. However, receipt of any application within the 21 day period prior to next meeting in no way guarantees that the application will be placed on the agenda.

Regular meetings are scheduled six times per year, and a schedule will be furnished upon request. Special meetings may be held at the sole discretion of the GHFC.

B. Application to the Greater Hartford Flood Commission must be accompanied by **three** copies each of the site plan, application form (attached), application fee, and a narrative description (letter), and other materials which clearly indicate the location, extent, and manner in which you request to use the Flood Plain District and the nature, extent, and effect of the proposed encroachment. Included in your letter should be a brief description of the proposed project. This letter should be addressed to:

Mr. John H. McGrane, P.E., Director
Greater Hartford Flood Commission
525 Main Street
Hartford, Connecticut 06103

Further, your letter of application to the Commission must be personally signed by the owner of the property and shall contain the following expressed language:

"I (We) do hereby understand and agree to provide and undertake any and all adequate and proper measures as are and may be recommended and approved by the Greater Hartford Flood Commission in connection with the location and construction of the use or uses herein of the Flood Plain District to insure that the water storage volume as required by the July 1966 U.S. Army Engineers' Report on the Park River Basin is substantially maintained without interfering or diminishing the basic flow of the Park River. The enclosed plan is herewith made part of this application".

- C. Each applicant shall have the sole responsibility to notify all property owners within a 100 feet radius of a property that is the subject of any application to the Greater Hartford Flood Commission. The applicant shall notify said property owners via certified letter of the pending application, which shall include the date(s), time, and location of the GHFC meeting at which the application is scheduled to be heard. The applicant must include all certified mail Post Office receipts (or copies) prior to the meeting date. The Flood Commission may refuse to act upon any application that lacks proper proof of notification.
- D. The following are minimum requirements of the site plan:
1. A plot plan at a scale of 1" = 40' or less showing the actual shape, dimensions, and street address of the parcel. Plan size not to exceed 23" x 36". Plan must be certified by the appropriate professional engineer, architect, surveyor, or other duly certified authority.
 2. Key map showing location of parcel relative to watercourse(s) and existing streets.
 3. Limits of the Flood Plain District and Stream Channel Encroachment Lines, if any.
 4. A description of the existing and proposed structures.
 5. The location and size of all existing and proposed structures.
 6. Name of record owner of parcel and names of abutting property owners.
 7. Cross sections showing basis for cut and fill computations. Section to be at a large enough scale to accurately describe proposed grade changes.
 8. Computations for cut and fill within parcel.
 9. Existing and proposed contours, in sufficient detail to show general topography, watercourses and drains. In general, contours shall be shown at no less than two foot intervals, but in the case of relatively level land the Commission may require spot grades and contours of one foot intervals.
 10. All parking areas, outside storage areas, building entrances, exterior lighting, refuse containers, fences and wooded areas.
 11. Datum of Site Plan must be North American Vertical Datum (NAVD) of 1988
 12. Benchmark, North Arrow, Scale, and Date (including revision date(s)).
 13. Details of any proposed fencing within the Flood Plain District.
 14. All existing and proposed utilities.
 15. Erosion protection devices, if any.
 16. Any other information requested by the Commission or its staff.

- E. The following are typical standard notes which must be recited on your plan except where they are clearly not applicable. The following examples are for an application within the Park River flood zone. Similar notes, properly modified, are required for any application in the Flood Plain District to suit the conditions of the particular flood zone:
1. The storage volume of water occupied by the proposed earth fill on this plan below elevation 51.15 North American Vertical Datum (NAVD) of 1988 datum is _____ cu. yds.
 2. The storage volume occupied by the proposed piers and stairwells on this plan below elevation 51.15 North American Vertical Datum (NAVD) of 1988 is _____ cu yds.
 3. The storage volume of earth to be excavated as compensatory storage on this plan as replacement for the volume of earth fill, piers, and stairwells placed below elevation 51.15 North American Vertical Datum (NAVD) of 1988 is _____ cu yds.
 4. The net flood storage volume within the Flood Plain District as a result of this application will increase _____ decrease _____ by _____ cu. yds .
 5. This structure has a physical connection to areas outside of the Flood Plain District for access and egress at elevation _____ North American Vertical Datum (NAVD) of 1988.
 6. Elevation of the lowest floor of new or substantially improved structures is _____ North American Vertical Datum (NAVD) of 1988.
 7. This building is placed so that it does not encroach or interfere with the direction of flow in the channel.
 8. The bottom of the building supported on piers over the Flood Plain District is greater than elevation 51.15 North American Vertical Datum (NAVD) of 1988.
 9. The piers supporting this structure and the structure itself are, or will be designed to withstand velocities or hydrostatic pressure.
 10. The structure will be flood-proofed to elevation 51.15 North American Vertical Datum (NAVD) of 1988.
 11. This plan shall be subject to any special conditions which are made part of the written certification of approval by the Greater Hartford Flood Commission and to the Rules and Regulations Governing the Use of the Flood Plain District as adopted by the Greater Hartford Flood Commission.
- F. After construction is completed the applicant shall be responsible to submit "As-built" plans to the Commission within 60 days of completion of the proposed construction. These plans shall show the actual grading done to compensate for filling in the Flood Plain District. Failure to submit as-built plans may result in revocation any Certificate of Approval for this activity.

- G. The permittee is hereby advised that additional federal, state, or local permits may be required and, if so, the applicant shall provide copies of such permits to be maintained on file with the approved site plan. An approval by the GHFC shall not be construed by the applicant as an authorization to commence work, until such time that all other required permits are obtained.
- H. Any construction or development work approved by the GHFC under such an application must be completed within five (5) years of the date of approval, otherwise said approval shall be considered to have expired and any certificates of approval previously issued will be null and void.
- I. The GHFC may, at its sole discretion, require the applicant to post a suitable performance or surety bond as a means to guarantee the timely, acceptable, and full completion of the work stipulated in the application and Certificate of Approval.

IV. **GENERAL STANDARDS**

In all areas of the Flood Plain District the following provisions are required:

- A. New construction and substantial improvements to buildings shall be anchored to prevent flotation, collapse or lateral movement of the structure.
- B. New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
- C. New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
- D. Electrical, heating, ventilation, plumbing, air conditioning equipment, and other service facilities shall be elevated above the following applicable elevations:
 - 1. Park River Basin – Most conservative flood elevation on the FIS or elevation 51.15 North American Vertical Datum (NAVD) of 1988, whichever is greater;
 - 2. Connecticut River – Base flood elevation.
- E. If this equipment must be located below the applicable elevation stated above the following rules shall apply:
 - 1. The structure shall be flood-proofed to applicable flood elevation listed above, or:
 - 2. These service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
- F. New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.

- G. New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the system into flood waters.
- H. On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- I. No accessory use, as defined in the applicable Zoning Ordinance, will be permitted which will cause pollution of the stream or river.
- J. No such accessory use will be permitted which will cause additional flooding upstream of the location of such use.
- K. Any excavated areas shall include provisions for positive drainage of these areas.
- L. Any new or substantially altered structure in the flood plain that is intended for human occupancy shall be provided with at least one means of access that is entirely above the Base Flood Elevation (BFE). Said access shall be arranged in such a way as to permit a safe unobstructed route to areas that are outside the designated flood plain area. When circumstances warrant, the commission may require the elevation of the access to exceed the BFE, and may require that the access be made to accommodate vehicular traffic to and from the structure.
- M. Above-ground storage tanks (oil, propane, etc.) which are located outside or inside of the structure must either be elevated above the base flood elevation (BFE) on a concrete pad, or be securely anchored with tie-down straps to prevent flotation or lateral movement, have the top of the fill pipe extended above the BFE, and have a screw fill cap that does not allow for the infiltration of flood water.
- N. If any portion of a structure lies within the Special Flood Hazard Area (SFHA), the entire structure is considered to be in the SFHA. The entire structure must meet the construction requirements of the flood zone. The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. Decks or porches that extend into a more restrictive flood zone will require the entire structure to meet the standards of the more restrictive zone.
- O. If a structure lies within two or more flood zones, the construction standards of the most restrictive zone apply to the entire structure (i.e., A zone is more restrictive than X zone; structure must be built to the highest BFE). The structure includes any attached additions, garages, decks, sunrooms, or any other structure attached to the main structure. (Decks or porches that extend into a more restrictive zone will require the entire structure to meet the requirements of the more restrictive zone.)
- P. Compensatory Storage. The water holding capacity of the floodplain, except those areas which are tidally influenced, shall not be reduced. Any reduction caused by filling, new construction or substantial improvements involving an increase in footprint to the structure, shall be compensated for by deepening and/or widening of the floodplain. Storage shall be provided on-site, unless easements have been gained from adjacent property owners; it shall be provided within the same hydraulic reach and a volume not previously used for flood storage; it shall be hydraulically comparable and incrementally equal to the theoretical volume of flood water at each elevation, up to and including the 100-year flood elevation, which would be displaced by the proposed project. Such compensatory volume shall have an unrestricted hydraulic connection to the same waterway or water body. Compensatory storage can be provided off-site if approved by the municipality.

- Q. Equal Conveyance. Within the floodplain, except those areas which are tidally influenced, as designated on the Flood Insurance Rate Map (FIRM) for the community, encroachments resulting from filling, new construction or substantial improvements involving an increase in footprint of the structure, are prohibited unless the applicant provides certification by a registered professional engineer demonstrating, with supporting hydrologic and hydraulic analyses performed in accordance with standard engineering practice, that such encroachments shall not result in any (0.00 feet) increase in flood levels (base flood elevation). Work within the floodplain and the land adjacent to the floodplain, including work to provide compensatory storage shall not be constructed in such a way so as to cause an increase in flood stage or flood velocity.
- R. New construction, substantial improvements and repair to structures that have sustained substantial damage cannot be constructed or located entirely or partially over water unless they are a functionally dependent use or facility.

V. **SPECIFIC STANDARDS**

- A. No buildings or structures shall be erected, altered, enlarged or used within a Flood Plain District without the approval, in writing, of the Greater Hartford Flood Commission or its successor.
- B. No land filling, excavation, or grading shall be permitted within a Flood Plain District, or in close proximity to any Flood Control Infrastructure without the approval, in writing, of the Greater Hartford Flood Commission or its successor. No such filling, excavation, grading or construction associated therewith, shall be permitted which will:
 - 1. cause the water surface elevation of the base flood to increase by any amount; measurable or calculated or
 - 2. cause the flood carrying capacity of any watercourse to be diminished;
 - 3. decrease the volume of storage in the head-pool storage areas below elevation 51.15 NAVD on the North or South branch of the Park River.
 - 4. Cause any negative or deleterious impacts on the functioning of any flood control facility or related natural features.
- C. The applicant shall be required to acquire all applicable state and federal permits and/or approvals for any proposed modifications within the Flood Plain District, if applicable.
- D. Residential Construction
 - 1. New residential construction or substantial improvement of any residential structure shall have the lowest floor, including the basement, elevated to or above the base flood Elevation (BFE) as shown on the FIRM; except for structures in the Park River flood zones which shall be elevated to elevation 51.15 NAVD, or the most conservative FEMA Flood Zone shown on the FIRM,

whichever is greater. Such elevation shall be certified by a registered engineer or architect licensed in the State of Connecticut.

E. Non-Residential Construction

1. New non-residential construction or substantial improvement of any non-residential structure shall have the lowest floor, including basement, elevated to the base flood elevation (BFE) as shown on the FIRM; except for structures in the Park River flood zones which shall be elevated to elevation 51.15 NAVD, or the most conservative FEMA Flood Zone shown on the FIRM, whichever is greater; or alternatively shall:
 - A. Be flood-proofed in lieu of being elevated provided that together with all attendant utilities and sanitary facilities the areas of the structures below the applicable flood elevation are water tight with walls substantially impermeable to the passage of water. A professional engineer or architect registered in the State of Connecticut shall certify that the flood-proofing methods are adequate to withstand the flood depths, pressures, velocities, impact, uplift forces to protect the structure to the applicable flood elevation; and
 - B. Use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A professional engineer or architect registered in the State of Connecticut shall review and/or develop structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with acceptable standards of practice for meeting the provisions of this subsection.

F. Elevated Buildings

In lieu of D and E above, new construction or substantial improvements to existing buildings may utilize elevated construction techniques such as use of piers, columns, exterior walls, or other structural means such that the bottom of the structure supporting the lowest floor is higher in elevation than the Base Flood Elevation (BFE); except that if within the Park River flood zones it shall be above elevation 51.15 NAVD or the most conservative elevations on the FIRM and FIS, whichever is greater. Buildings that include fully enclosed areas formed by foundation and other exterior walls below the above prescribed elevation, shall be designed to preclude finished living space and designed to allow for the entry and exit of floodwaters to automatically equalize hydrostatic flood forces on exterior walls. Designs for complying with this requirement must be certified by a professional engineer or architect registered in the state of Connecticut who shall review and develop structural design specifications, and plans for the construction, and shall certify that

the design methods of construction are in accordance with acceptable standards of practice for meeting the provisions of this subsection. The designs shall also meet the following minimum criteria:

1. Provide a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding;
2. The bottom of all openings shall be no higher than one foot above grade;
3. Openings may be equipped with screens, louvers, valves or other coverings or devices provided they permit the automatic flow of floodwaters in both directions.
4. Use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy.

G. Construction in the Floodway

Located within the Flood Plain District are areas designated as floodways on the community's FIRM Maps. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles, and has erosion potential, construction of both Residential and Non-Residential buildings are prohibited. Other types of activities may be permitted provided that there shall be no encroachments, fill, or other obstructions, unless certification supporting technical data by a registered professional engineer is provided demonstrating that encroachments shall not result in any (0.00) increase in flood levels during occurrence of the base flood discharge.

H. Subdivisions

In all areas of the Flood Plain District, the following requirements shall apply:

1. All subdivision proposals shall be consistent with the need to minimize flood damage.
2. All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize, or eliminate flood damage.
3. All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards.
4. In all special flood hazard areas where base flood elevation (BFE) data is not available, the applicant shall provide a hydrologic and hydraulic engineering analysis performed by a Connecticut licensed professional engineer that generates BFEs for all subdivision proposals and other proposed development, including manufactured home parks and subdivisions. The Director shall require the applicant to provide BFE data for all subdivision proposals, including manufactured home parks and subdivisions.

I. Manufactured Homes

1. All manufactured homes (including) "mobile" homes placed on a site for 180 consecutive days or longer) to be placed, or substantially improved within the Flood Plain District shall be elevated so that the lowest floor is above the base flood elevation, or elevation 51.15 North American Vertical Datum (NAVD) of 1988, whichever is greater.
2. All manufactured homes shall be placed on a permanent foundation which itself is securely anchored and to which the structure is securely anchored so that it will resist flotation, lateral movement, and hydrostatic and hydrodynamic pressures. Anchoring may include, but not be limited to, the use of over-the-top or frame ties to ground anchors.
3. All manufactured homes shall be anchored and supported in accordance with the specifications of the National Flood Insurance Program Floodplain Management Criteria – Sections 60.3 (b)(8) and 60.3 (c)(6).
4. Recreational vehicles placed on sites within a SFHA shall either (i) be on the site for fewer than 180 consecutive days, and (ii) be fully licensed and ready for highway use, OR (iii) meet all the general standard of Section IV and the elevation and anchoring requirement of Section V, I., 1-3. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions

J. Other Permitted Uses

1. Open space type uses shall be permitted subject to the approval, in writing, of the Greater Hartford Flood Commission or its successor
2. Parking lots in a flood plain to be occupied by more than three vehicles shall have warning signs clearly visible stating that the parking area is subject to flooding.
3. Fences of a height in excess of four (4) feet shall be constructed so that the fencing can readily be removed during times of emergency flooding to avoid potential obstruction to flow.
4. Small, portable, auxiliary fixtures or structures shall be so constructed, maintained, and kept secure to prevent their floating downstream. Such fixtures or structures shall be subject to immediate removal by the owner upon notice, written or oral, from the Director of Public Works of the City of Hartford, or such other person in charge of operating or maintaining the Flood Protection System.

K. Activities with Impact on Flood Control Facilities

1. Any activity or use that may have a significant impact on existing flood control infrastructure such as dikes, floodwalls, conduits, storm drains, open channels, pump stations, etc. shall be subject to the review and approval of the Greater

Hartford Flood Commission. The determination of which activities constitute a significant impact shall be made by the Director following a review of the project.

2. The applicant should anticipate the proper support of existing flood control structures, drains, etc., during any excavating activities adjacent to these existing improvements.
3. No equipment or materials shall operate or be stored above any underground flood control structure unless prior approval is received from the Greater Hartford Flood Commission.

VI VARIANCE PROCEDURES

A. Establishment of Variance Process

1. The Greater Hartford Flood Commission (GHFC), as established by the City of Hartford charter and municipal code, and State of Connecticut Special Acts, shall hear and decide appeals and requests for variances from the requirements of these regulations
2. The GHFC shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the Director of the Greater Hartford Flood Commission in the enforcement or administration of this regulation.
3. Any person aggrieved by the decision of the Greater Hartford Flood Commission (GHFC), or any person owning land which abuts or is within a radius of one hundred (100) feet of the land in question may appeal within fifteen (15) days after such decision to the State Superior Court of Hartford County, as provided in the General Statutes of Connecticut.
4. The Director of the Greater Hartford Flood Commission shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency (FEMA) upon request.

B. Specific Situation Variances

1. Buildings on a Historic Register:

Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places, the State Inventory of Historic Places, or any locally-adopted historic district without regard to the procedures set forth in the remainder of this section and provided the proposed reconstruction, rehabilitation or restoration will not result in the structure losing its historical designation.

2. Functionally Dependent Use or Facility:

Variances may be issued for new construction and substantial improvements and other development necessary for the conduct of a functionally dependent use or facility, provided the structure or other development is protected by methods that minimize flood damage, and creates minimal additional risk to public health or safety or flood control functionality as determined by the GHFC.

3. Floodway Prohibition:

Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

C. Considerations for Granting Variances

1. In passing upon such applications, the Greater Hartford Flood Commission (GHFC) shall consider all technical evaluations, all relevant factors, all standards specified in other sections of these regulations and the items listed below. Upon consideration of these factors listed below and the purposes of these regulations, the Greater Hartford Flood Commission may attach such conditions to the granting of variances as it deems necessary to further the purposes of these regulations:

- 1.1 The danger that materials may be swept onto other lands to the injury of others;
- 1.2 The danger to life and property due to flooding or erosion damage;
- 1.3 The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;
- 1.4 The importance of the services provided by the proposed facility to the community;
- 1.5 The necessity of the facility to waterfront location, in the case of a functionally dependent facility;
- 1.6 The availability of alternative locations not subject to flooding or erosion damage for the proposed use;
- 1.7 The compatibility of the proposed use with existing and anticipated development;
- 1.8 The relationship of the proposed use to the comprehensive plan and floodplain management program for that area;
- 1.9 The safety access to the property in times of flood for ordinary and emergency vehicles;
- 1.10 The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and
- 1.11 The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

D. Conditions for Variances

1. Variances shall only be used upon a determination that the variance is the minimum necessary to afford relief considering the flood hazard; and in the instance of a historical building, a determination that the variance is the minimum necessary as not to destroy the historic character and design of the building and result in the loss of historic designation of the building. Variances pertain to a piece of property and are not personal in nature. A properly issued variance is granted for a parcel of property with physical

characteristics so unusual that complying with the regulation would create an exceptional hardship to the applicant or the surrounding property owners. Those characteristics must be unique to that property and not be shared by adjacent parcels. For example, economic or financial hardship is not sufficient cause for a variance, nor are inconvenience, aesthetic considerations, physical handicaps, personal preferences or disapproval of one's neighbors.

2. Variances shall only be used upon (i) a showing of good and sufficient cause, (ii) a determination that failure to grant the variance would result in exceptional hardship, and; (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisance, damage the rights or property values of other persons in the area, cause fraud on or victimization of the public, or conflict with existing local laws, ordinances or regulations. Only hardships that are based on unusual or unique physical characteristics of the property in question, characteristics that are not shared by adjacent parcels, shall qualify to meet subsection (ii) above. Claims of hardship based on the structure, on economic gain or loss, or on personal or self-created circumstances are not sufficient cause for the granting of a variance.

3. No variance may be issued within a regulatory floodway that will result in any increase in the 100-year flood levels. A variance may be issued for new construction, substantial improvements and other development necessary for the conduct of a "functionally dependent use" provided that there is good and sufficient cause for providing relief; and the variance does not cause a rise in the 100-year flood level within a regulatory floodway. The structure and other development must be protected by methods that minimize flood damages.

4. Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation (BFE) and the elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the lowest floor elevation.

E. Enforcement

1. Each Certificate of Approval from the Greater Hartford Flood Commission (GHFC) shall authorize, as a condition of approval, the Director of the Greater Hartford Flood Commission or designated agents to make regular inspections of the subject property. The Director GHFC or designated agents are also authorized to inspect any property in any flood zone where it appears that violations of these regulations may be taking place.
2. If the Director of the Greater Hartford Flood Commission finds that any person is undertaking any construction, substantial improvement, filling, or any other activity or maintaining a condition which in violation of these regulations, the Director of the Greater Hartford Flood Commission shall:
 - 2.1 Issue a written order to the subject property owner, ordering that the activity cease and ordering the property owner to either seek to obtain a Certificate of Approval from the Greater Hartford Flood Commission Permit prior to continuing with the activity or, if appropriate, ordering that all violations and/or obstructions be removed from the Flood Plain District immediately.
 - 2.2 Notify the Hartford Building Official and request that any building permits issued in relation to the activity be revoked or suspended and that a stop work order be issued.

- 2.3 The Director of the Greater Hartford Flood Commission may suspend or revoke a Certificate of Approval for floodplain development if it is found that the applicant has not complied with the terms, conditions or limitations set forth in the permit or has exceeded the scope of work as set forth in the application including application plans. Prior to revoking any permit, the Director of the Greater Hartford Flood Commission shall issue notice to the permittee, personally or by mail, setting forth the facts or conduct which warrants the intended action.
- 2.4 Failure to comply with any written order issued under this section shall be considered a violation of these regulations and is subject to the penalties described in Section "F". In the event violations or obstructions are not promptly removed from any flood zone, the Director of the Greater Hartford Flood Commission may cause such removal and remediation work to be performed utilizing any surety bond posted pursuant to these regulations, or may direct the Director of Public Works or appropriate agent to cause such work to be done and to place a lien against the property.
- 2.5 Any person subjected to enforcement action pursuant to these regulations, may appeal any requirement, decision, or determination of the Director of the Greater Hartford Flood Commission to the Greater Hartford Flood Commission, in accordance with Section "A" of this Variance procedure. Such person shall provide such information as necessary including appropriate certifications from a registered professional engineer or architect in order to substantiate the claim that the requirement, decision, or determination of the Director of the Greater Hartford Flood Commission was in error or unwarranted.

F Penalties for Violation

1. Any violation of the provisions of these regulations or failure to comply with any of its requirements, including violation of conditions and safeguards established in connection with grant of variances or special exceptions, shall constitute a misdemeanor. Any person who violates these regulations or fails to comply with any of its requirements shall be subject to enforcement action including, but not limited to imposition of fines as per City of Hartford municipal code, prosecution under applicable state statute, and in addition shall be liable for all costs and reasonable legal fees involved in the case, and other damages incurred as a result of the violation. Nothing herein contained shall prevent the Greater Hartford Flood Commission or City of Hartford from taking such lawful action as is necessary to prevent or remedy any violation.

VII ADDITIONAL TERMS

A. Abrogation and Greater Restrictions

This regulation is not intended to repeal, abrogate or impair any existing easements, covenants, or deed restrictions. However, where this regulation and another ordinance, regulation easement, covenant or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

B. Warning and Disclaimer of Liability

The degree of flood protection required by this regulation is considered the minimum reasonable for regulatory purposes and is based on scientific and engineering consideration and research. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This regulation does not imply or guarantee that land outside the Special Flood Hazard Area or uses permitted in such areas will be free from flooding and flood damages. This regulation shall not create liability on the part of the City of Hartford, GHFC, or any officer or employee thereof for any flood damages that result from reliance on this regulation or any administrative decision lawfully made there under. The City of Hartford, the GHFC, and its officers and employees shall assume no liability for another person's reliance on any maps, data or other information provided in this regard.

C. Severability

If any section, subsection, paragraph, sentence, clause, or phrase of this regulation should be declared invalid for any reason whatsoever, such decision shall not affect the remaining portions of this regulation, which shall remain in full force and effect; and to this end the provisions of this regulation are hereby declared to be severable.

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